NORTH FORK NOOKSACK RIVER PROJECT 1 CED RETROFIT

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INTRODUCTION

The North Fork Nooksack (NFN) River retrofit project is located along State Route (SR) 542. SR 542 is a main transit route for local, commercial, and tourist traffic.

THE CED PROBLEM

This North Fork Nooksack CED Retrofit consists of two sites. The first site is near MP 20.25 and the other stretches from MP 34 to MP 44. In these areas, channel volatility is high and SR 542 is founded on relatively young alluvial deposits that are highly susceptible to erosion. In addition, SR 542 isolates the NFN from approximately 35% of the river valley.

At MP 20.25, the river is in close proximity to SR 542. This reach is just downstream of an ancient landslide that protrudes into the river corridor. This landslide deposit, coupled with the Coal Creek Alluvial Fan entering the NFN on the right bank, creates a natural constriction point. In addition, Racehorse Creek enters the NFN just above the landslide deposit. Therefore, large quantities of sediment are delivered to the NFN at or just above a natural constriction point resulting in very dynamic river conditions downstream of the constriction, where excess sediment is deposited and channel migration is prevalent.

The second site consists of several areas between MP 34 and MP 44. SR 542 is confined between the toe of the valley slope and the active channel in many areas and is also on the edge of the erosion hazard zone. In some places, fill materials have been used to bring the road up to grade and in other areas SR 542 has been placed on top of sand and alluvial terraces. This leaves SR 542 highly susceptible to erosion.

FISH UTILIZATION & HABITAT AVAILABILITY

The North Fork Nooksack River system supports Chinook, chum, coho, pink, steelhead, cutthroat and bull trout/dolly varden. Cutthroat are presumed to be present. A few Sockeye have also been observed utilizing the system.

Chinook within the river system represent a distinct stock. It is a native stock with composite production, and its status is considered to be critical based on chronically low escapement. This species is currently listed as threatened.

Chum within the system are also considered a distinct stock. It is a native stock with wild production whose status is healthy. Chum tend to use primarily the lower sections of the NFN and also spawn in some tributary streams.

Steelhead are also identified as a distinct stock. They are of the Mainstem/NFN stock and they spawn in the Mainstem, North Fork, and tributaries. It is a native, wild stock, sustained by natural production whose status is unknown.

Two stocks of bull trout/dolly varden are identified as using the NFN River and/or its tributaries. These are the lower Nooksack and Canyon Creek Stocks. The stocks are native and are believed to be composed of anadromous, fluvial, and resident life history forms, which have the potential to commingle in many of the spawning areas. Bull trout/dolly varden are currently listed as threatened under the federal Endangered Species Act.

RETROFIT PROJECT

The Integrated Streambank Protection Guidelines (http://wdfw.wa.gov/hab/ahg/ispgdoc.htm) were used to address the overall project objectives. At MP 20.25, large woody debris (LWD) based deflector/diffuser structures were placed. Large woody debris was also placed from MP 34 to 44 by WSDOT Northwest Region Maintenance staff. It is anticipated that the outcome of the woody debris structures will result in meeting the necessary requirements to protect SR 542 and provide environmental enhancements along these reaches.

Figure 1. North Fork Nooksack CED Retrofit at MP 20.5 before LWD structures.

Figure 2. Placing LWD along bank at MP 20.5.